ABSTRACT

The present invention provides a unique system and method that facilitates obtaining high performance and more secure HIPs. More specifically, the HIPs can be generated in part by caching pre-rendered characters and/or pre-rendered arcs as bitmaps in binary form and then selecting any number of the characters and/or arcs randomly to form a HIP sequence. The warp field can be pre-computed and converted to integers in binary form and can include a plurality of sub-regions. The warp field can be cached as well. Any one sub-region can be retrieved from the warp field cache and mapped to the HIP sequence to warp the HIP. Thus, the pre-computed warp field can be used to warp multiple HIP sequences. The warping can occur in binary form and at a high resolution to mitigate reverse engineering. Following, the warped HIP sequence can be down-sampled and texture and/or color can be added as well to improve its appearance.